



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/297,737	05/04/2001	Juliette Quartararo	PET-1761	1202

23599 7590 06/28/2002

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.  
2200 CLARENDON BLVD.  
SUITE 1400  
ARLINGTON, VA 22201

EXAMINER

NORTON, NADINE GEORGIANNA

ART UNIT	PAPER NUMBER
----------	--------------

1764

15

DATE MAILED: 06/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/297,737

Applicant(s)

QUARTARARO ET AL.

Examiner

Nadine Norton

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-21 is/are rejected.
- 7) ☒ Claim(s) 1, 4 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13414

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1764

## DETAILED ACTION

### *Claim Objections*

Claims 7 and 12 are objected to because of the following informalities:

In claim 7, it appears as if applicants intend to claim "further comprising" instead of "further that comprises".

In claim 12, line 2, applicants use the phrase "the feedstock is is selected". It appears as if applicants intend to delete the second occurrence of "is".

Claim 8 currently depend<sup>714</sup> on 11. It appears as if applicants intend claim 8 to depend on claim 1. <sup>411</sup>

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13, applicants use the phrase "in hydrotreatment of hydrocarbon-containing feedstocks prior to their treatment...". The meaning of the phrase is unclear. It appears as if applicants are attempting to claim an initial hydrotreatment step prior to hydrocracking. If this is the case, it is suggested that applicants amend the claim accordingly.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kittrell

(3,617,485).

Applicants are claiming a catalyst. The catalyst comprises a Group VIIB component, an element that is selected from phosphorous, boron, silicon and at least one hydrogenating metal selected from non-noble metals of Group VIII, molybdenum and tungsten.

The reference of Kittrell (3,617,485) discloses a hydrocracking catalyst comprising 0.005 to 2 wt% rhenium, nickel and fluoride. See column 4, lines 11-22, column 6, lines 11-20, and column 7, lines 1-5. The catalyst further contains alumina or silica-alumina. See column 4, lines 12-18. The reference also discloses metals in the form of sulfides. See column 6, lines 14-16.

The reference of Kittrell (3,617,485)'s disclosure of silica is considered to meet applicants' "silicon" limitation.

The reference of Kittrell (3,617,485) further teaches using the disclosed catalyst in a hydrocarbon conversion process. Suitable feeds include solvent-deasphalted residuum and petroleum distillates. See column 5, lines 21-40. The feeds may be subjected to a preliminary hydrofining step. See column 5, lines 35-40. Kittrell discloses that the catalyst can be effective for hydrocracking, hydrodesulfurizing, hydrodenitrification, hydrogenation and hydroisomerization. See column 4, lines 4-9.

Art Unit: 1764

The reference of Kittrell (3,617,485) succeeds at disclosing a catalyst with components and amounts corresponding to those claimed by applicants. Applicants' composition is anticipated by the reference of Kittrell (3,617,485) because it discloses essentially the same composition.

Applicants' composition is anticipated by the reference of Kittrell (3,617,485) because it discloses essentially the same composition.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kittrell (3,617,485).

See teachings of Kittrell (3,617,485) above.

The reference of Kittrell (3,617,485) further teaches using the disclosed catalyst in a hydrocarbon conversion process. Suitable feeds include solvent-deasphalted residuum and petroleum distillates. See column 5, lines 21-40. The feeds may be subjected to a preliminary

Art Unit: 1764

hydrofining step. See column 5, lines 35-40. Kittrell discloses that the catalyst can be effective for hydrocracking, hydrodesulfurizing, hydrodenitrification, hydrogenation and hydroisomerization. See column 4, lines 4-9.

The reference of Kittrell (3,617,485) is considered to disclose a catalyst/feed contacting step corresponding to the one claimed by applicants. In addition, the reference's disclosure of hydrofining the feed is considered to meet applicants' hydrotreatment step in claim 13.

A difference is noted between the teachings of Kittrell (3,617,485) and applicants' claimed invention. It is noted that the reference of Kittrell (3,617,485) does not use the terminology to describe the disclosed hydrocarbon conversion processes.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the catalyst of Kittrell for hydrotreating because it is known that hydrotreating encompasses hydrocracking, hydrodenitrification and hydrogenation which are all suitably accomplished by the composition of Kittrell (3,617,485).

### ***Claim Rejections - 35 USC §102/103***

Claims 10 and 12-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kittrell (3,617,485).

See teachings of Kittrell (3,617,485) above.

The reference of Kittrell (3,617,485) is considered to disclose a catalyst/feed contacting step corresponding to the one claimed by applicants. In addition, the reference's disclosure of hydrofining the feed is considered to meet applicants' hydrotreatment step in claim 13.

Art Unit: 1764

It is noted that the reference of Kittrell (3,617,485) does not refer to the process of using the catalyst as "hydrotreating". However, the disclosed hydrocracking process is considered to meet applicants' hydrotreating limitation because the process conditions of Kittrell in column 8, lines 50-60 overlap the conditions of applicants process (See applicants' specification, page 13, lines 8-15). Accomplishing a conversion under the same process conditions inherently accomplishes the same conversion. In this case, the same hydrotreating would take place.

Applicants' process is anticipated by the reference of Kittrell because it discloses essentially the same catalyst/feed contacting step.

Applicants' "hydrotreating" conversion would obviously be accomplished upon practicing the process of Kittrell (3,617,485).

### ***Claim Rejections - 35 USC § 102***

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Antos (4,463,104).

The reference of Antos et al.(4,463,104) discloses a catalyst composition. The composition contains a VIIB component in the form of rhenium or manganese, a phosphorous component, a matrix component in the form of alumina, a non-noble group VII metal component in the form of nickel. See column 3, lines 56-66, column 4, lines 16-26 and column 6, lines 25-56. The reference teaches that the catalyst may also contain sulfur. See column 4, lines 14-16.

The reference of Antos et al.(4,463,104) succeeds at disclosing a catalyst with the same components claimed by applicants.

Art Unit: 1764

Applicants' composition is anticipated by the reference of Antos et al.(4,463,104) because it discloses essentially the same composition.

***Claim Rejections - 35 USC § 103***

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Antos et al.(4,463,104).

See teachings of Antos et al.(4,463,104) above.

It is noted that the reference of Antos et al.(4,463,104) is silent about the specific proportions of the catalyst components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select any proportion of components that produces an effective catalyst, including the specific proportions claimed by applicants, because it has been held that there is no invention where the difference in proportions is not critical and was ascertained by routine experimentation because the determination of workable ranges is not considered to be inventive. See In re Swain and Adams 70 USPQ 412 (CCPA 1946).

***Claim Rejections - 35 USC § 103***

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 573 973 in view of Heck et al.(4,430,198).

The reference of EP 0 573 973 discloses a desulfurization catalyst. The catalyst comprises molybdenum (12-18 wt%), cobalt or nickel (2-8 wt%), and rhenium (0.1 to 5 wt%).



Application/Control Number: 09/297,737

Art Unit: 1764

See abstract, page 4, lines 25-34. EP 0 573 973 teaches that the composition also includes alumina and boron in the form of alumina-boria. See page 4, lines 6-10.

It is noted that the reference of EP 0 573 973 is silent about a Group VIIA component such as fluorine.

The reference of Heck et al.(4,430,198) is cited to illustrate that fluorine is a known promoter for a desulfurization catalyst. See abstract and column 6, lines 45-55.

It would have been obvious to one of ordinary skill in the art at the time the invention was made desiring increased desulfurization activity to modify the catalyst of EP 0 573 973 with fluorine because the reference of Heck et al.(4,430,198) illustrates that fluorine is a known promoter for desulfurization catalysts.

### ***Claim Rejections - 35 USC § 102***

Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 573 973.

See teachings of EP 0 573 973 above. The reference of EP 0 573 983 discloses components and amounts overlapping those claimed by applicants. In addition, applicants' claim encompasses 0% of a VIIA (e.g. fluorine) component. The absence of fluorine in EP 0 573 973 encompasses applicants' 0% VIIA.

Applicants' catalyst is anticipated by the reference of EP 0 573 973 because it discloses a catalyst with essentially the same components.

***Claim Rejections - 35 USC § 102***

Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by GB 2 066 690.

The reference of GB 2 066 690 discloses a catalyst comprising 10-85% nickel (corresponds to hydro-dehydrogenating element), alumina (corresponds to matrix), 0.05 to 6.7% boron and 0.01 to 10% rhenium ( corresponds to VIIB element). See page 2, column 2, lines 66-79.

The reference of GB 2 066 690 discloses components and amounts overlapping those claimed by applicants. In addition, applicants' claim encompasses 0% of a VIIA (e.g. fluorine) component. The absence of fluorine in GB 2 066 690 encompasses applicants' 0% VIIA.

Applicants' catalyst is anticipated by the reference of GB 2 066 690 because it discloses a catalyst with essentially the same components.

***Prior Art of Record***

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The attached references disclose catalysts containing similar components to those claimed by applicants.

Application/Control Number: 09/297,737

Art Unit: 1764

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadine Norton whose telephone number is 703-305-2667. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

N.N.

June 26, 2002

**NADINE G. NORTON  
PRIMARY EXAMINER**

*Nadine Norton*